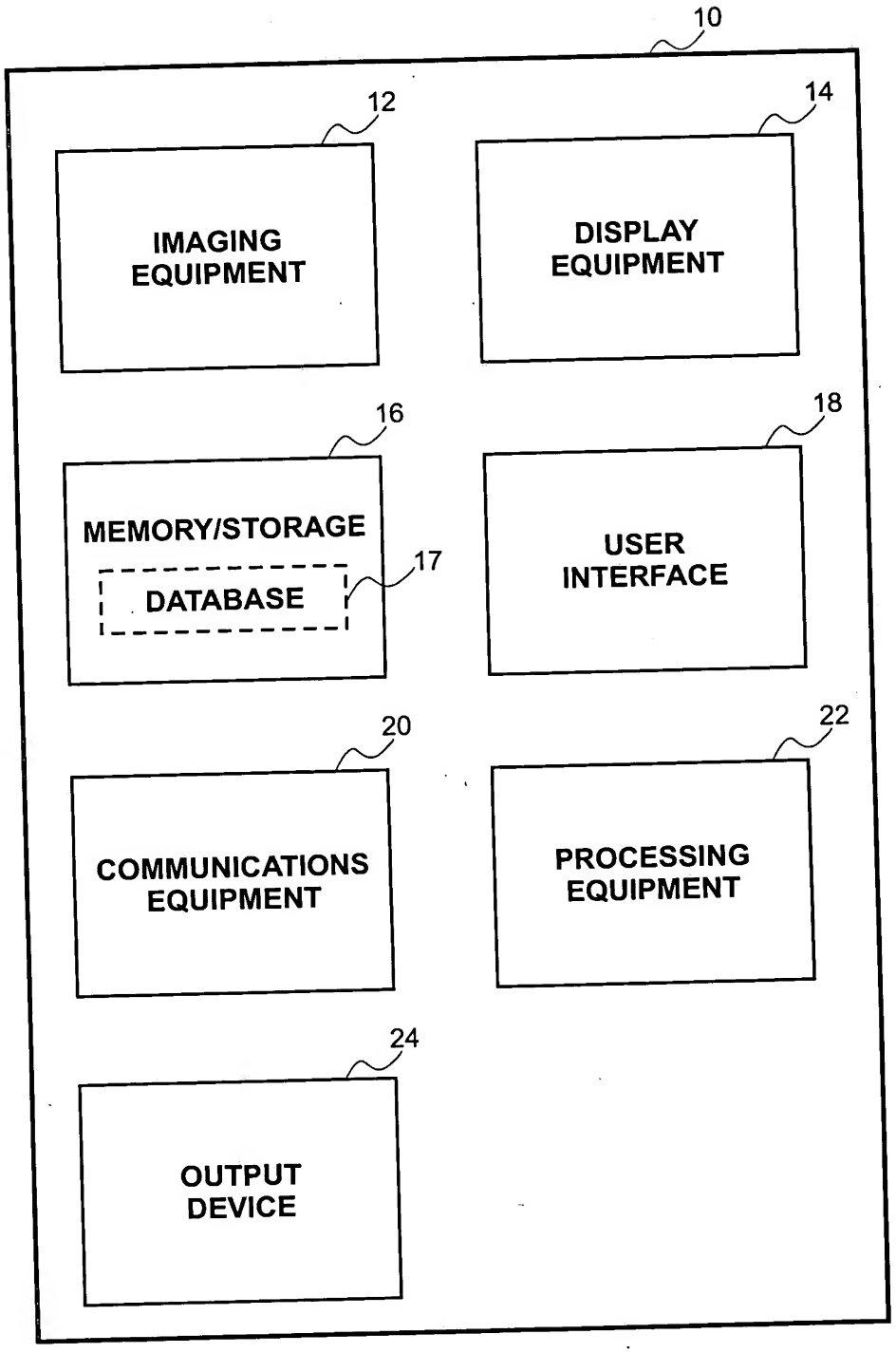
10
12
IMAGING EQUIPMENT
14
DISPLAY EQUIPMENT
16
MEMORY/STORAGE
DATABASE
17
18
USER INTERFACE
20
COMMUNICATIONS EQUIPMENT
22
PROCESSING EQUIPMENT
24
OUTPUT DEVICE

Fig. 1

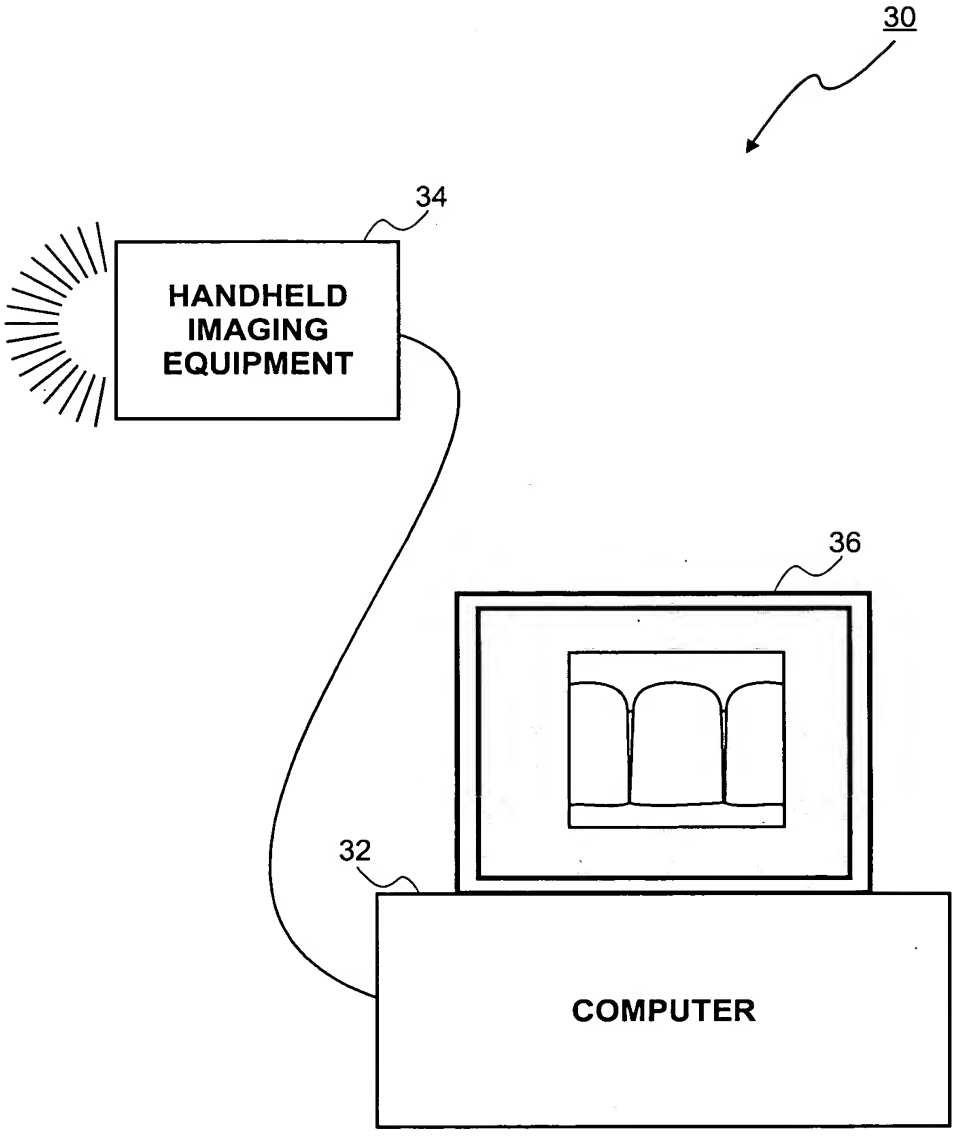

Fig. 2

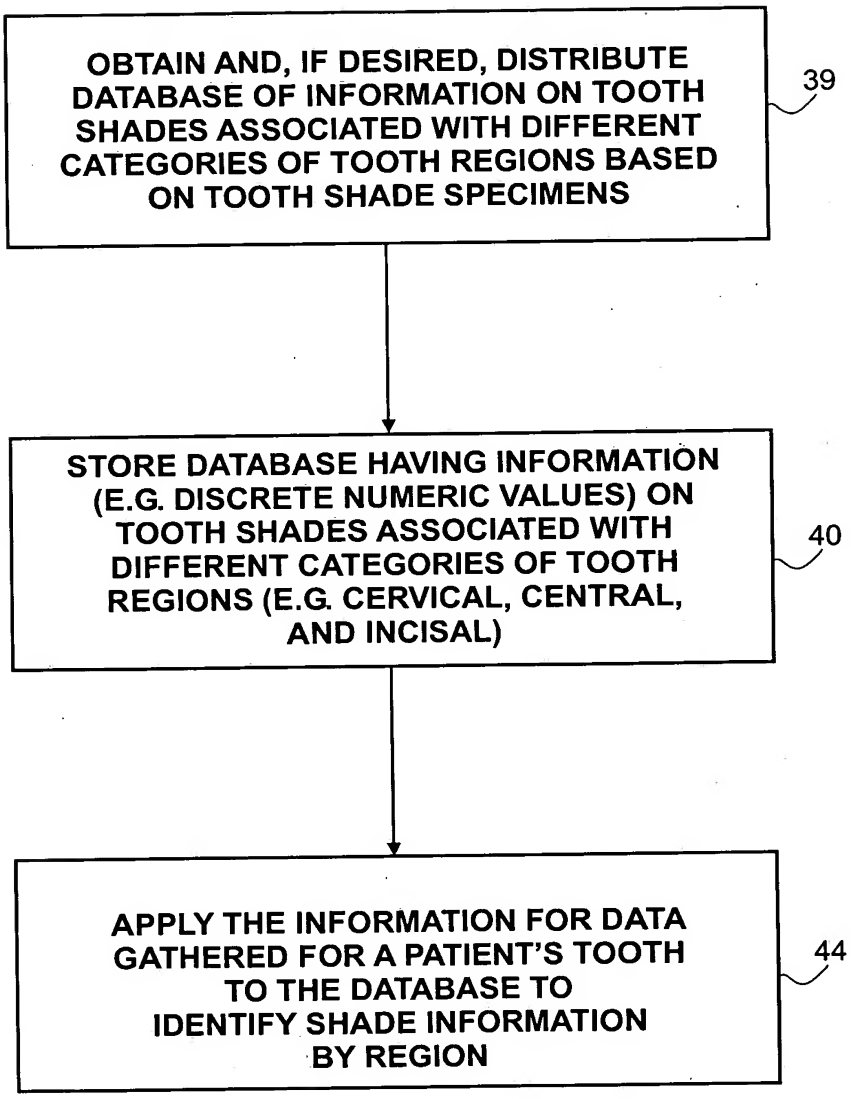
OBTAIN AND, IF DESIRED, DISTRIBUTE DATABASE OF INFORMATION ON TOOTH SHADES ASSOCIATED WITH DIFFERENT CATEGORIES OF TOOTH REGIONS BASED ON TOOTH SHADE SPECIMENS
39
STORE DATABASE HAVING INFORMATION (E.G. DISCRETE NUMERIC VALUES) ON TOOTH SHADES ASSOCIATED WITH DIFFERENT CATEGORIES OF TOOTH REGIONS (E.G. CERVICAL, CENTRAL, AND INCISAL)
40
APPLY THE INFORMATION FOR DATA GATHERED FOR A PATIENT'S TOOTH TO THE DATABASE TO IDENTIFY SHADE INFORMATION BY REGION
44

Fig. 3

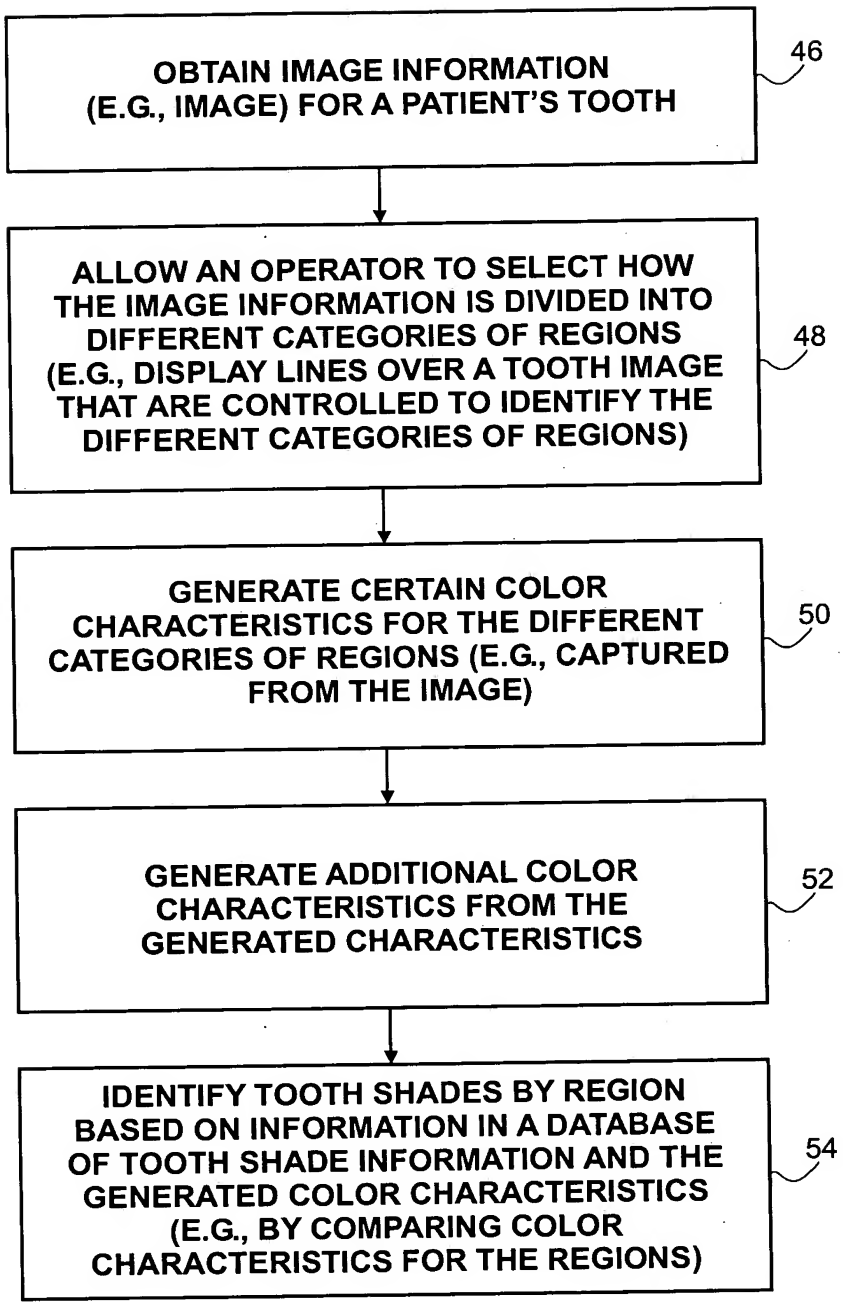
OBTAIN IMAGE INFORMATION (E.G., IMAGE) FOR A PATIENT'S TOOTH
46
ALLOW AN OPERATOR TO SELECT HOW THE IMAGE INFORMATION IS DIVIDED INTO DIFFERENT CATEGORIES OF REGIONS (E.G., DISPLAY LINES OVER A TOOTH IMAGE THAT ARE CONTROLLED TO IDENTIFY THE DIFFERENT CATEGORIES OF REGIONS)
48
GENERATE CERTAIN COLOR CHARACTERISTICS FOR THE DIFFERENT CATEGORIES OF REGIONS (E.G., CAPTURED FROM THE IMAGE)
50
GENERATE ADDITIONAL COLOR CHARACTERISTICS FROM THE GENERATED CHARACTERISTICS
52
IDENTIFY TOOTH SHADES BY REGION BASED ON INFORMATION IN A DATABASE OF TOOTH SHADE INFORMATION AND THE GENERATED COLOR CHARACTERISTICS (E.G., BY COMPARING COLOR CHARACTERISTICS FOR THE REGIONS)
54

Fig. 4

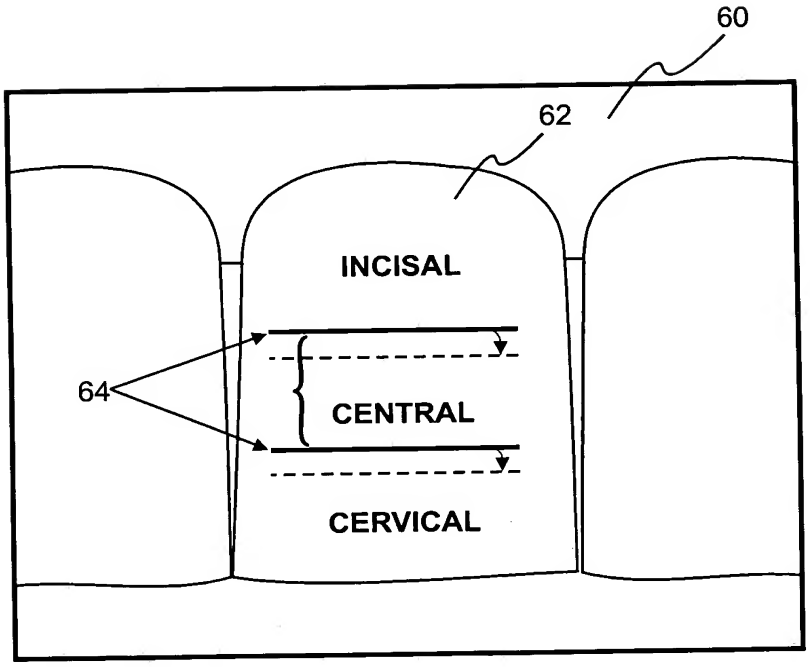

Fig. 5

PATIENT'S TOOTH

70

	R	B	G	L*	a*	b*
INCISAL	3.5	1.0	5.0	3.2	2.2	5.5
CENTRAL	2.2	1.5	5.5	1.3	0.7	5.7
CERVICAL	4.2	2.0	2.2	0.1	1.3	5.0

COMPARE TO DATABASE

72

	R	B	G	L*	a*	b*	
SHADE 1	R_1	B_1	G_1	L^*_1	a^*_1	b^*_1	
SHADE 2	R_2	B_2	G_2	L^*_2	a^*_2	b^*_2	
• • •							INCISAL
SHADE N							
SHADE 1							
SHADE 2							
• • •							CENTER
SHADE N							
SHADE 1							
SHADE 2							
• • •							CERVICAL
SHADE N							

Fig. 6